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ABSTRACT

ERIC abstracts on vocational education programs in the public schools, announced in RIE through February 1971, are presented. The key terms used in compiling this collection are "cooperative education," "distributive education," "vocational education," and "work experience programs." The following information is presented for each document: Author, title, place of publication, publisher, publication date, number of pages, ERIC document ("ED") number, price and availability, and abstract. A subject index is cross-referenced with the document listing. (RA)

# AASA

*ERIC Abstracts on:*

## *Developing Vocational Education Programs in the Public Schools*

ERIC Abstracts

A collection of ERIC Document Resumes on

# Developing Vocational Education Programs in the Public Schools

Compiled by

the

ERIC Clearinghouse on
Educational Management
University of Oregon
Eugene, Oregon 97403

March 1971

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## PREFACE

The Educational Resources Information Center (ERIC) is a national information system operated by the United States Office of Education. ERIC serves the educational community by disseminating educational research results and other resource information that can be used in developing more effective educational programs.

The ERIC Clearinghouse on Educational Management, one of twenty such units in the system, was established at the University of Oregon in 1966. The Clearinghouse and its nineteen companion units process research reports and journal articles for announcement in ERIC's index and abstract bulletins.

Research reports are announced in Research in Education (RIE), available in many libraries and by subscription for $21 a year from the United States Government Printing Office, Washington, D. C. 20402. Most of the documents listed in RIE can be purchased through the ERIC Document Reproduction Service, operated by Leasco Information Products, Inc.

Journal articles are announced in Current Index to Journals in Education. CIJE is also available in many libraries and can be ordered for $39 a year from CCM Information Corporation, 909 Third Avenue, New York, New York 10022. Annual and semiannual cumulations can be ordered separately.

Besides processing documents and journal articles, the Clearinghouse has another major function--information analysis and synthesis. The Clearinghouse prepares bibliographies, literature reviews, state-of-the-knowledge papers, and other interpretive research studies on topics in its educational area.

The ERIC Abstracts series is the result of a cooperative arrangement between the Clearinghouse and the National Academy of School Executives (NASE) of the American Association of School Administrators. The abstracts are compiled by the Clearinghouse to provide participants in a series of NASE-sponsored seminars with an up-to-date collection of ERIC materials on subjects to be presented in these seminars. Additional copies of the abstracts are published by AASA and distributed across the country to school administrators and others interested in educational administration.

Philip K. Piele
Director

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# INTRODUCTION

Since the beginning of ERIC in 1966, more than 30,000 documents have been announced in ERIC's monthly catalog, Research in Education (RIE). Of this total, about 1,500 documents have been processed by this Clearinghouse. So extensive is this growing collection of documents that we thought it would be useful to compile separate lists of ERIC documents on a number of critical topics in educational management. Published separately, these selected lists of documents comprise the ERIC Abstracts series.

To compile each list, a search is made of the RIE indexes, using key terms that define the topic being searched. The terms used to compile this collection of documents on vocational education programs in the public schools are COOPERATIVE EDUCATION, DISTRIBUTIVE EDUCATION, VOCATIONAL EDUCATION, and WORK EXPERIENCE PROGRAMS. Relevance to the topic is the only criterion for listing a document. The listing is complete for all issues of RIE through February 1971. Not all of the listed documents are processed by this Clearinghouse.

Based on the document resumes in RIE, the following information is presented for each document: author, title, place of publication, publisher, publication date, number of pages, ERIC document ("ED") number, price of the document if it is available from the ERIC Document Reproduction Service, and the abstract. The documents are listed alphabetically by the authors' last names and are numbered.

A subject index, beginning on page 34, is cross-referenced with the document listing. The subject terms, arranged in alphabetical order, are identical to those contained in RIE's subject index.

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1. Alabama University. Automobile Body and Fender Repair and Refinishing: A Study Guide and Progression Record in Automobile Body and Fender Repair and Refinishing. University: 1966. 92 pages. ED 013 929 MF $0.65 HC not available from EDRS. (Available from Trade and Industrial Education, Box 2847, University, Alabama 35486, $1.25.)

   Job sheets are used in this individual study guide to direct eleventh- and twelfth-grade students in cooperative education programs in area vocational or comprehensive high schools. The guide was developed by a state committee of trade and industrial coordinators, subject matter specialists, and teacher educators, and has been used in high school programs for thirty years. The job sheets contain the job title, related study references, questions, and a chart for recording completion of correlated laboratory performances and related references. Trade analysis and progress record forms for teacher and student use include a list of the job sheets and spaces for recording progress on the job and in related study. Also included is a student's daily record form. Time allotment is one hour per day for two years or 360 hours. A bibliography includes required texts and supplementary references.

2. Alabama University. Barbering: A Study Guide and Progression Record for Barbering Students in a Cooperative Training Program. University: 1963. 76 pages. ED 013 948 MF $0.65 HC not available from EDRS. (Available from Trade and Industrial Education, Box 2847, University, Alabama 35486, $1.50.)

   Question-type job or assignment sheets in this guide direct the student's related study in cooperative training programs. The material was developed by trade and industrial coordinators, subject matter specialists, and teacher educators and was tested by use in high school programs. The sixty-one job sheets are keyed to three related reference books, but the coordinator may supplement the student's study with additional material. Completed job experiences and related readings are to be recorded on the job sheets that cover the history of barbering, ladies' haircuts, the voluntary muscles of the head, acne facials, etc. A trade analysis progress form for teacher and student use is provided for recording composite job performance and reference readings during the two-year program. The material was developed for eleventh- and twelfth-grade students in area vocational or comprehensive high schools. The mimeographed document includes a bibliography of related references and supplementary materials.

3. American Educational Research Association. Vocational, Technical, and Practical Arts Education. Review of Educational Research, Volume 32, Number 4. Washington, D.C.: 1962. 74 pages. ED 022 639 Document

not available from EDRS. (Available from American Educational Research Association, 1201 Sixteenth Street, N.W., Washington, D.C., $2.00.)

The major research findings for the six-year period following October 1956 are reported in the following categories. (1) Vocational, Technical, and Practical Arts Education discusses the current status of research in vocational education and the practical arts and reviews significant research that cuts across or is relevant to two or more of the several major fields. (2) Career Planning, Job Placement, and Follow-Up includes the general theory of vocational development, general education, and specific occupational programs. (3) Agricultural Education reflects interest in evaluation, adjustments due to changes in agricultural nonfarm occupations, the shortage of professional persons, and the expansion of nonvocational agriculture. (4) Home Economics Education includes secondary education, the basis for program development, evaluation, attitudes, college programs, student characteristics and abilities, history, and teacher education. (5) Industrial Education includes industrial arts and vocational industrial education. (6) Business Education includes implications for secondary programs and new information. (7) Distributive Education includes objectives and philosophy, organization and administration, curriculum and instruction, and evaluation and follow-up. And, (8) Technical Education includes assessment of basic needs, institutional planning, curriculum, enrollment, programs, and institutions.

4. American Vocational Association, Committee on Publications. School Administrators and Vocational Education. Washington, D.C.: 1964. 31 pages. ED 019 453 MF $0.65 HC $3.29.

General policies and practices to help school administrators provide vocational education for both youths and adults are presented as answers to thirty-eight questions covering topics such as (1) objectives, (2) types of programs, (3) types of students, (4) purpose of each subject field, (5) the role of the federal government, (6) federal and state agencies, (7) the role of the state staff, (8) application for federal, state, or local funds, (9) local school organization, (10) steps in establishing a program, (11) duties of personnel, (12) the role of vocational guidance, (13) relation to industrial arts education, and (14) program evaluation. Sources of additional information and brief explanations of the Smith-Hughes Act, the George-Barden Act, and the Vocational Education Act of 1963 are included.

5. Asbell, Bernard. New Directions in Vocational Education, Case Studies in Change. Washington, D.C.: Office of Education, Department of Health, Education, and Welfare, 1967. 61 pages. ED 020 326 MF $0.65 HC not

available from EDRS. (Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, No. FS5.280--80047, $0.30.)

In recent efforts of the U.S. Office of Education to bridge the gap between development and adaptation of educational practice, visibility has been given to communities that have introduced new curricula, teaching methods, and institutional patterns. Five locally initiated programs, which have attempted to provide the educational system with a flexibility to meet the needs of students of various backgrounds and ability levels, have been selected on the basis of community size, geographical region, and program type. The "Richmond Pretechnical Program," now operating in nineteen high schools in the San Francisco Bay Area, uses students' practical and occupational interests to develop general and academic skills by unifying physics, math, English, and shop courses to eliminate artificial fragmentation of subject matter. Georgia's eighteen postsecondary vocational schools, geared to industry demands, required changed attitudes and new administrative techniques to grow from a school system devoted almost entirely to training for agricultural occupations. The "Market Street School" in Warren, Ohio, brought sixth- to ninth-grade slow learners together in an entirely new environment providing needed general and vocational skills. By cooperative effort of the professions, hospitals, educational institutions, and education leaders at state and local levels, Phoenix, Arizona, built into its educational structure a complete paramedical training capability. In Quincy, Massachusetts, vocational education has shifted from training for a single skill to preparing individuals for a cluster of occupational skills.

6. Ashmun, Richard D., and Larson, Roger A. Review and Synthesis of Research on Distributive Education 1966-1968. Columbus: Center for Vocational and Technical Education, Ohio State University, 1970. 89 pages. ED 038 498 MF $0.65 HC $3.29. (Also available from the Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, $2.25.)

This review and synthesis is the second in a series of analyses of the literature in the field of distributive education. The 149 citations range from 1965 to 1969 but emphasize 1966-1968. Topic areas are Philosophy and Objectives, Manpower Needs and Employment Opportunities, Curriculum Development, Educational Programs, Instructional Materials and Devices, Learning Process and Teaching Methods, Student Personnel Services, Teacher Education, Administration and Supervision, Evaluation, and Miscellaneous Studies. The number and percent of studies reviewed in each of the eleven major categories for the years 1965-1968 are presented in tabular form. Collectively, curriculum

development, evaluation and teacher education were the focus of 51 percent of research in distributive education during this three-year period. A bibliography is included. The first review, covering research prior to 1965, is written by Warren G. Meyer and William B. Logan.

7. Bakamis, William A., and others. Identification of Task and Knowledge Clusters Associated with Performance of Major Types of Building Trades Work. [Final Report Number 7.] Pullman: Washington State University, 1966. 184 pages. ED 010 658 MF $0.65 HC $6.58.

   Clusters of knowledges widely useful to building trades workers are identified. Questionnaires and interviews provided up-to-date facts regarding major types of tasks performed by a representative sample (229) of brick layers, carpenters, cement finishers, electricians, iron workers, and heating workers. On the basis of this information, a jury comprised of vocational teachers, a scientist, a mathematician, a language arts specialist, and building trade employees and supervisors identified knowledges associated with the performance of major tasks. Clusters of widely useful mathematics, science, and communication knowledges were then defined. The authors assume that acquisition of such knowledges along with requisite skills would help students succeed in building trade entry jobs and serve as bases for retraining, occupational mobility, and career-long advancement. This volume represents part seven of the thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

8. Bottoms, Gene, and Matheny, Kenneth B. A Guide for the Development, Implementation, and Administration of Exemplary Programs and Projects in Vocational Education. Atlanta: Division of Vocational Education, Georgia State Department of Education, 1969. 42 pages. ED 040 301 MF $0.65 HC $3.29.

   This guide discusses the purposes as well as priorities and potential of the Exemplary Programs and Project Section of the 1968 amendments to the Vocational Education Act, describes considerations in developing exemplary programs at all educational levels, and suggests administrative strategies for program and project implementation. Some major recommendations are: (1) special attention should be given to the vocational needs of non-college-bound high school graduates, dropouts, and handicapped youth; (2) vocational education should be structured as a developmental and sequential process from elementary through post-secondary and adult vocational programs; (3) schools should assume responsibility for all students until they successfully make the transition from school to work; (4) guidelines for programs and projects

should be student centered; and (5) responsibility for the administration of exemplary programs should include the functions of priority determination, consultation, management, coordination, and dissemination.

9. Brunetti, Frank, and Williams, Jerome. Annotated Bibliography for Vocational-Technical Education, 1966. Reno: Nevada State Research Coordinating Unit for Vocational-Technical Education, 1966. 239 pages. ED 012 319 MF $0.65 HC $9.87.

   More than one thousand items are listed alphabetically within subject areas. The areas include agricultural education, art industries and trade, business education, economics, job analysis, labor and democracy, manpower, occupational health nursing, occupations, personnel management, technical education, vocational guidance, vocational mathematics, vocations for girls, work and leisure, work measurement, work-study programs, and workers on relief. Publication dates range from the early 1900s through 1966. The materials are available at the Noble H. Getchell Library on the University of Nevada campus, Reno, and the library call numbers are given.

10. Butcher, G. Dale. Desirable Characteristics of Vocational Department Heads as Seen by Senior Administrators. Fort Collins: Colorado Research Coordinating Unit, 1968. 42 pages. ED 024 805 MF $0.65 HC $3.29.

    To provide implications for the training of vocational supervisors, opinions were obtained from twenty-seven administrative supervisors of vocational department heads in each of four types of schools: technical institutes, comprehensive high schools, vocational high schools, and junior colleges. Technical knowledge was found to be the most important characteristic for technical institute supervisors, while vocational education background was most important in the other three types of schools. Characteristics ranked high by all types of schools were vocational education background, general education background, technical knowledge, student-centered approach, and an understanding of basic principles of learning. There was more agreement in what was unimportant in supervisor characteristics than in what was important. Recommendations for future studies of this type include: (1) careful selection of listed characteristics, (2) use of an open-end type questionnaire, (3) careful selection of persons supplying the list of characteristics or ranking the list so that they are representative of the types of schools, (4) use of an analysis of variance method in analyzing data, and (5) extension of research to identify effective supervisor characteristics.

11. California University. A Guide for the Development of Curriculum in Vocational and Technical Education. Los Angeles: Division of Vocational and Technical Education, 1969. 39 pages. ED 037 535 MF $0.65 HC $3.29.

The product of regional seminars and a national conference, this guide is intended to help state and local administrators, curriculum specialists, supervisors, and teachers in establishing and operating programs of curriculum development for vocational and technical education. The guidelines, representing broad approaches to the many problems of curriculum development, are to be used as a basis for reflective thinking. Included are: (1) Concepts and Assumptions, (2) Curriculum Development, Dissemination, and Coordination, (3) Standards for Curriculum Development, (4) Special Sources of Curriculum Materials, (5) Evaluation of Curriculum and Curriculum Materials, (6) Professional Development of Personnel in Curriculum Activities, and (7) National Implications. A bibliography, a list of governmental agencies with potential resources for vocational and technical education, and supported steps in curriculum development, modification and improvement are appended.

12. Cavanagh, Catherine, and Rahmlow, Harold F. A Survey Instrument for Identifying Clusters of Knowledge and Competencies Associated with Performance of Child Care Work. [Final] Report Number 10. Pullman: Washington State University, 1966. 22 pages. ED 010 661 MF $0.65 HC $3.29.

To improve compatibility between academic curricula offered in child care and the actual world of work in that field, a special research team developed and field tested a survey instrument designed to obtain up-to-date facts about major types and combinations of tasks performed by child care workers. Field testing was done with employees of a playschool and a day nursery association. Subjects were asked to indicate tasks they performed in the following areas: (1) housekeeping, (2) food preparation, (3) assisting children with routines, (4) material preparation, (5) clerical and secretarial work, (6) directing or assisting with activities, (7) planning activities or programs, (8) purchasing, (9) working with parents, and (10) general administration. A copy of the completed instrument is presented. This volume represents part ten of a thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

13. Center for Vocational and Technical Education. Abstracts of Instructional Materials in Vocational and Technical Education (AIM), Spring 1970. Columbus: The Ohio State University, 1970. 166 pages. ED 041 159 MF $0.65 HC $6.58. (Available from ERIC Clearinghouse for Vocational

and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, Quarterly: Fall, Winter, Spring, Summer, $11.00 per year.)

This quarterly publication announces the availability of instructional materials acquired and processed by the Educational Resources Information Center (ERIC) Clearinghouse on Vocational and Technical Education. It should be of particular interest to teachers, curriculum specialists, supervisors, and administrators involved in curriculum development or the use of instructional materials in the teaching-learning setting. Each abstract, an approximately two-hundred-word condensation of the report, usually includes the means used to develop the material, the setting for use of the material, and source of available copies. Abstracts are included under the following sections: Agricultural, Business and Office, Distributive, Health Occupations, Home Economics, Industrial Arts, Technical, Trade and Industrial, and General Vocational and Technical Education. An author index, document number index, and subject index are provided.

14. Center for Vocational and Technical Education. Abstracts of Instructional Materials in Vocational and Technical Education (AIM), Summer 1970. Columbus: The Ohio State University, 1970. 170 pages. ED 042 930 MF $0.65 HC $6.58. (Available from The Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, Quarterly: Fall, Winter, Spring, Summer, $11.00 per year.)

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15. Center for Vocational and Technical Education. Abstracts of Research and Related Materials in Vocational and Technical Education (ARM), Spring 1970. Columbus: The Ohio State University, 1970. 322 pages. ED 039 367 MF $0.65 HC $13.16. (Available from ERIC Clearinghouse on

Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, Quarterly: Fall, Winter, Spring, Summer, $9.00 per year.)

This quarterly publication announces the availability of documents acquired and processed by the Educational Resources Information Center (ERIC) Clearinghouse on Vocational and Technical Education. It contains abstracts of research and other materials which are useful to researchers, supervisors, teacher educators, education specialists, administrators, teachers, and others who have an interest in vocational and technical education. The abstracts are organized by topical groupings: (1) Administration and Supervision, (2) Curriculum, (3) Employment and Occupations, (4) Evaluation and Measurements, (5) Facilities and Equipment, (6) Historical Studies, (7) Individuals with Special Needs, (8) Philosophy and Objectives, (9) Research Design, Development and Utilization, (10) Students, Occupational Guidance and Other Student Personnel Services, (11) Teachers and Teacher Education, (12) Teaching and Learning, and (13) Other Resources. Indexes provide the approach to the abstracts by (1) personal and institutional authors, (2) document accession number with a table showing ED numbers for documents available through the ERIC Document Reproduction Service, (3) vocational and supporting services, and (4) subjects.

16. Center for Vocational and Technical Education. Abstracts of Research and Related Materials in Vocational and Technical Education (ARM), Summer 1970. Columbus: The Ohio State University, 1970. 227 pages. ED 042 036 MF $0.65 HC $9.87. (Available from ERIC Clearinghouse for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, Quarterly: Fall, Winter, Spring, Summer, $11.00 per year.)

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number with a table showing ED numbers for documents available through the ERIC Document Reproduction Service, (3) vocational and supporting services, and (4) subjects.

17. Center for Vocational and Technical Education. Review and Synthesis of Research on the Economics of Vocational Education. Research 16. Columbus: The Ohio State University, 1968. 62 pages. ED 023 937 MF $0.65 HC $3.29.

This publication introduces vocational educators and others interested in occupational education to research and writings on the economics of vocational-technical education. Research pertaining to cost-benefit and cost-effectiveness analysis of vocational education and manpower training programs is emphasized. Major sections are devoted to a review of research and writings pertaining to the theory and concepts of the economics of education, the methodological and conceptual problems involved in evaluating vocational-technical education programs using cost-benefit and cost-effectiveness models, results of cost-benefit and cost-effectiveness studies of public school vocational-technical programs and manpower training programs, and the use of follow-up studies as a means of evaluating vocational-technical education programs. Other sections deal with studies of costs and returns from investment in rural technical schools, investment effects of education in agriculture, and the relationship between vocational education and students' propensity to drop out of school. Of the one hundred sources cited, the oldest was published in 1962 and most were published since 1966.

18. Connecticut State Board of Education. A Pilot Project to Develop a Program of Occupational Training for School Alienated Youth. Final Report and Related Materials. Hartford: Center for Vocational Arts, 1969. 197 pages. ED 036 648 MF $0.65 HC $6.58.

The Center for Vocational Arts provided a work-study ungraded program for male and female school-alienated youths fifteen to twenty-one years of age. The basic elements of the program were individual programs, vocational training, counseling, basic academic education, and supervised work experience. For three hours a day the students attended classes, and for the remainder they held part-time jobs. Training courses were offered in automotive, food, health, office, and manufacturing operations, retailing services, landscaping and horticulture, and maintenance and repair operations. Students could enter the program at any time during the year, and when they demonstrated sufficient competency they received a high school diploma or vocational certificate. The report on the program also includes research reports, an evaluation of the program, and a guide for development of multimedia learning activity providing such teaching aids as film-loops, tapes, slides, and artifacts.

19. Cromer, Chalmers A. Procedure for Determining Vocational Education Needs through Community Analysis. NRCUVT Series Number 2. Lincoln: Nebraska Occupational Needs Research Coordinating Unit, 1968. 29 pages. ED 023 916 MF $0.65 HC $3.29.

Designed as a model for determining vocational education needs, the procedures recommended in this publication were tested in twenty Nebraska communities during 1965, 1966, and 1967. Data gathered by a study of local vocational needs can be beneficial to policy-making groups in evaluating the entire educational program and in determining demographic patterns. Some major objectives of local community analysis are to: (1) evaluate existing vocational courses and determine needed additional offerings, (2) focus attention on the development of quality comprehensive community programs, (3) summarize occupational opportunities within a community, (4) assist local schools in establishing the type of vocational offering that will generate a desirable curriculum balance, (5) determine the need for supplemental education and training or retraining, and (6) supplement local data with area and state data to project a regional picture of employment opportunities. The document content includes: (1) philosophy, (2) purpose, (3) objectives, (4) benefits, (5) model, (6) a seven-step outline for determining vocational education needs, (7) determining multicounty vocational education needs, and (8) problems in compiling area data. The appendices contain sample forms for use in a survey.

20. Cunningham, J.W., ed. The Job-Cluster Concept and Its Curricular Implications: A Symposium. Center Monograph Number 4. Raleigh: Center for Occupational Education, North Carolina State University, 1969. 91 pages. ED 042 897 MF $0.65 HC $3.29.

Contributions from job-cluster research include greater understanding of the desired end-product of vocational education, potential for curriculum development, and better understanding of job analysis. Presentations by specialists who are presently active in research on the problems of job-clustering include: (1) "A Functional Approach to Curriculum Development," by D. Sjogren; (2) "A Conceptual Framework for the Study of Job Similarities," by J. W. Cunningham; (3) "Application of Cluster Research to Curriculum Development," by H. F. Rahmlow; and (4) "The Development, Implementation, and Field Evaluation of the Cluster Concept Program in Vocational Education at the Secondary School Level," by W. S. Mietus. Critiques of the papers are provided by E. J. Morrison and Dale G. Hamreus.

21. Ertel, Kenneth A. Identification of Major Tasks Performed by Merchandising Employees Working in Three Standard Industrial Classifications of Retail Establishments. [Final Report Number 6.] Moscow: University of Idaho, 1966. 117 pages. ED 010 657 MF $0.65 HC $6.58.

By questionnaire, facts were obtained regarding twelve categories of merchandising performed by 609 supervisory and nonsupervisory personnel of thirty-three department, limited-price variety, and general merchandising stores. This sample was selected from a population of 13,643 merchandising employees, working in a total of 234 firms, in King and Pierce counties, Washington. The work categories were selling, stockkeeping, checkstand operation, merchandise receiving and marking, delivery, record keeping, computing, display, advertising, buying, pricing, and merchandise control. Data gathered by the questionnaire were used to calculate percentages of employees performing each category of work. Other collected data provided a profile of the workers in terms of occupational training, education, sex, age, experience in present occupation, job mobility, emphasis of high school study, and groupings of major tasks performed. This information was to be used in identification and assessment of knowledges and knowledge clusters most likely to provide bases for training and career-long advancement. The knowledge assessment study was in progress at the time of reporting, and further analysis of the questionnaire data was to be postponed until after its completion. This volume represents part six of the thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

22. Gray, Kenney Earl. "Competencies Needed by Personnel Engaged in Program Planning in State Divisions of Vocational-Technical Education." Ph. D. dissertation, Ohio State University, 1970. 177 pages. ED 042 927 Document not available from EDRS. (Available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48103.)

The legislative requirements for state-level planning in vocational education and the changing socioeconomic problems confronting vocational education were compelling forces in the conceptualization and conduct of this study. To identify the competencies needed by personnel engaged in program planning within state divisions of vocational-technical education, three successive mail questionnaires were sent to twenty practitioners, of whom seven were chiefs of planning. As a result of this investigation, 147 competencies were identified as needed by planning personnel, including competencies related to socioeconomic planning, program planning, and resource planning. It is concluded that state-level planning in vocational and technical education utilizing the Arnold model involves specialized assignments requiring performance of specific planning competencies. Recommendations included more intensive study of planning competencies and additional research in planning operations.

23. Green, John A., and others. New Horizons in Developing Vocational Educational Programs in Small High Schools in Small Districts. Moscow: University of Idaho, 1965. 87 pages. ED 003 494 MF $0.65 HC $3.29.

The activities of a summer workshop on vocational education programs are reported. Four leaders were chosen to lead small group sessions. Topics discussed were: (1) developing curriculum and administrative patterns for operation of prevocational education in the high school, (2) isolating and identifying researchable problems, (3) creating a pattern for evaluation of emerging programs, and (4) studying and determining the training needs of youth. The results of the conference are summarized and evaluated.

24. Griessman, B. Eugene, and Densley, Kenneth G. Review and Synthesis of Research on Vocational Education in Rural Areas. University Park: ERIC Clearinghouse on Rural Education and Small Schools, New Mexico State University; and Columbus: Center for Vocational and Technical Education, The Ohio State University, 1969. 49 pages. ED 034 632 MF $0.65 HC $3.29. (Also available from Manager, Duplicating Service, New Mexico State University, Box 3-CB, Las Cruces, New Mexico 88001, $1.75; and available from Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, $1.75.)

The vocational needs of rural America are discussed in this two-part research synthesis. Part One discusses the problem from a sociological point of view. The author of this section considers demographic and ecological factors, the economy of rural areas, educational patterns, racial and ethnic factors, and political and legal implications. Recommendations for research are included. Part Two looks at the problem from an educator's point of view. Discussion of vocational education in America focuses on curriculum, facilities and equipment, counseling and student personnel services, and teacher education. A bibliography accompanies each part of the document.

25. Grossmont Union High School District. Vocational Education Master Plan Report. California: 1966. 40 pages. ED 016 801 MF $0.65 HC $3.29.

This report covers the first two phases of a proposed six-phase plan. A committee of one representative from each high school, a vocational counselor, and the district vocational education consultant developed guidelines for the master plan based on opinions and recommendations of an eighteen-member council of high school vocational education teachers. The committee (1) studied current vocational education programs, local and state employment conditions and trends, the student population, and present facilities and equipment; (2) set up

as a pilot project a three-week aircraft assembly occupational training course; and (3) made a preliminary evaluation of demand occupations. Curricular recommendations are to (1) implement a four-track plan within the school according to student commitment, (2) provide more effective vocational orientation at the eighth-grade level, (3) establish a vocational exploratory program at the ninth-grade level, (4) create interdisciplinary coordination in all related courses in high school, (5) provide a concentration of vocational classes in eleventh and twelfth grades, (6) provide final specific occupational training near the end of the high school program, and (7) establish a district responsibility for placing students in gainful employment. Organizational recommendations concern: (1) establishing a vocational education council, special committees, and a vocational advisory council, (2) coordinating the district organization, (3) studying facilities and service, (4) placing students, and (5) initiating other improvements. Each of the recommendations is discussed in detail. A summary of the summer experiment in aircraft assembly and summary data from research are included.

26. Hawkridge, David G., and others. A Study of Selected Programs for Vocational Education in Secondary Schools. Final Report. Palo Alto, California: American Institutes for Research in Behavioral Sciences, 1970. 95 pages. ED 041 155 MF $0.65 HC $3.29.

    To identify and describe secondary vocational education programs that have been successful in increasing the total placement rate when compared with other courses of instruction, 445 programs were selected through a literature search, mail and telephone inquiries, personal contacts, and other means. The evaluation of each program was studied, particularly the follow-up of graduates. In addition, project staff made on-site studies of evaluation problems in thirty programs. The project staff was unable to show that any of the programs met the study's criteria for success. Nearly one-half of the programs did not have comprehensive follow-up information on their graduates, and no trends could be detected in nor suitable comparisons made of those approximately 148 programs that had nearly complete follow-up records. In order to obtain detailed information on graduates, more complex, fine-grained follow-up would be required. It is also recommended that a randomized group be selected for follow-up and that the same procedure be applied to select a comparable group of non-vocational graduates.

27. Illinois Research and Development Coordinating Unit. A Bibliography of Published and Unpublished Vocational and Technical Education Literature. Springfield: 1966. 225 pages. ED 018 531 MF $0.65 HC $9.87.

Citations for Part One were obtained from abstracting journals in education, applied science and technology, dissertation abstracts, current periodicals, and lists of research projects reviewed in response to requests to state and city boards of education and selected colleges and universities. The 1,516 references, generally published from 1960-65, are arranged alphabetically by author. Annotations are included where they were available. Part Two contains approximately three hundred references to unpublished research projects, completed or in progress, funded by state research grants or by the U. S. Office of Education. A subject and key-word index with partial cross-indexing and topics of general interest refers to the citation numbers.

28. Illinois Research and Development Coordinating Unit. Vocational and Technical Education: Abstracts of Experimental Projects. Springfield: 1968. 34 pages. ED 039 330 MF $0.65 HC not available from EDRS.

Abstracts are compiled for thirty-three projects, conducted between 1964 and 1968 but primarily during 1966 and 1967, which concern a variety of regular and special programs in high schools and junior colleges. Each abstract includes title, author, date, type of report, abstract, Research Coordinating Unit (RCU) identification number, and the total cost of the project. Listings are arranged sequentially according to the RCU identification number. Types of reports are proposals, in-progress, final, and follow-up. Further information may be obtained by contacting the Illinois Research Coordinating Unit, Board of Vocational Education and Rehabilitation, 405 Centennial Building, Springfield, Illinois 62706.

29. Illinois State Board of Vocational Education and Rehabilitation. Part-Time Industrial Cooperative Education. A Manual for Administrators and Coordinators, Series B, Bulletin 198. Springfield: Vocational and Technical Education Division, 1968. 165 pages. ED 027 416 MF $0.65 HC $6.58.

This manual is intended to assist school administrators and teacher coordinators in establishing and maintaining programs of industrial cooperative education. By cooperatively utilizing the resources of the school and community, programs of vocational education are designed to provide high school youth with opportunities to receive on-the-job training in an occupation, of his or her choice, that is trade and industrial in nature. This 1968 revised edition presents the basic philosophy, activities, methods, and operational procedures of industrial cooperative education programs. The topical areas include: (1) Establishing an Industrial Cooperative Education Program; (2) The High School Administrator's Responsibilities; (3) The Teacher-Coordinator;

(4) The Teacher-Coordinator Begins His Work; (5) Selection and Placement of Student Learners; (6) Related Instruction, Coordination, Reports and Records; (7) Advisory Committees: Their Organization and Function; (8) Program Evaluation in Industrial Cooperative Education; and (9) Aids for the Teacher-Coordinator.

30. Kitzmiller, Richard L. A Model Vocational Education Program for the Slow Learner. Chambersburg, Pennsylvania: Franklin County School Board, 1967. 234 pages. ED 021 046 MF $0.65 HC $9.87.

The term "slow learner" is used in this report to designate the 18 to 20 percent of school children who measure approximately 50 to 89 IQ on individual intelligence tests. The purposes of the project were to identify areas of vocational opportunity best suited to the abilities and interests of the slow learner, adopt criteria for optimum educational instruction, design a model program of vocational education for the slow learner, and determine the staff and facilities needed to operate a demonstration program for one year. School superintendents, consultants, guidance counselors, employment counselors, and a status survey of area vocational schools supplied information about vocational programs. Questionnaires and rating scales completed by specialists in the field provided material about job complexity, criteria for a slow learner program, and an evaluation of courses. Consultants reviewed the data and made recommendations for implementing a model program. It is concluded that the county area vocational-technical school should provide vocational education for the slow learner and should offer more training in (1) packing, storing, and handling manufactured items, (2) operating automotive equipment and office machines, and (3) general maintenance and processing. Of seventeen courses examined in the study, six offered many and six offered some educational opportunities for slow learners. Descriptions of courses to be offered, lists of jobs relating to these courses, an annotated bibliography of resource materials, summaries of meetings, the instruments, and data are included in fourteen appendices.

31. Kolstoe, Oliver P., and Frey, Roger M. A High School Work-Study Program for Mentally Subnormal Students. Carbondale: Southern Illinois University Press, 1965. 186 pages. ED 012 136 Document not available from EDRS. (Available from Southern Illinois University Press, 600 West Grand, Carbondale, Illinois 62901, $5.00.)

Characteristics and needs of the mentally handicapped and the organization of a four-year high school work-study program for these students are described for teachers and work-study supervisors. The program includes work and related study through three stages of experience—prevocational training that provides vocational information and

experience in sheltered work conditions, job tryout, and supervised vocational placement. An adjusted academic program that is coordinated with the vocational program is explained. Appendices include a suggested curriculum for a four-year program and sample employer forms for progress, evaluation, and job analysis.

32. Kreuter, Mortimer, and Barnett, Lawrence J. Curriculum Relevancy and Work. New York: Center for Urban Education, 1967. 20 pages. ED 020 311 MF $0.65 HC $3.29.

The demands of work and education upon each other, the value or lack of value of courses for learners, and the undermotivated learner who does not find significance in current school offerings are problems facing public education. Some previous plans to overcome these problems have used (1) the comprehensive high school, (2) industry-school interrelations, and (3) school adaption mechanisms such as field trips to actual situations, realia from industry, core curricula, and guidance. A merged school and industry design especially for undermotivated youth is a suggested solution. A transfer from the school to the plant locale would constitute full-time experience for an extended period, and trained teachers of academic and occupational subjects would be permanently assigned to work sites. The plant or work locale would become the school. Typical settings would be industrial plants, service centers, hospitals, human welfare agencies, businesses, banks, or department stores. It would be essential that each work locale be large so that a wide variety of skills and learning might be found, studied, and practiced. Steps in developing such a program would be (1) analyzing the locale and its potential for generating a curriculum; (2) surveying space, materials, and equipment useful in teaching; (3) examining logistics, legal responsibilities, and union and management problems; (4) using an industrial arts educator, physics, language arts, and social studies teachers, and a guidance specialist to work with plant personnel to develop a curriculum; (5) training teachers, plant personnel, pupils, and parents; and (6) making the plan operational. Assumptions underlying the proposal and the major issues to be analyzed in implementing a systems approach are included.

33. Larson, Milton E. Review and Synthesis of Research: Analysis for Curriculum Development in Vocational Education. Research Series Number 46. Columbus: Center for Vocational and Technical Education, The Ohio State University, 1969. 82 pages. ED 035 746 MF $0.65 HC $3.29. (Also available from the Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210.)

This "state-of-the-art" paper is intended to provide researchers, curriculum development specialists, and practitioners with an authoritative analysis of the literature in the field. Major sections include: (1) Background and Structure, (2) Resource Materials, (3) Sources of Content Information for Analysis, (4) Types and Techniques of Analysis, (5) Translating Content into Courses of Study, (6) Building Curriculum from Analysis, (7) Systems Approach to Building Vocational Curriculum, and (8) Trends and New Directions. It is concluded that more serious considerations must be given to: (1) increasing the use of analysis as the foundation for vocational curricula, (2) codifying and defining terms used, (3) developing common understandings of effective processes of analysis, and (4) accepting procedures found to be functional by other vocational services. A suggested approach to providing validated vocational curricula would be the establishment of a center(s) for the unique purpose of curriculum building. Such a center would need: (1) a competent staff with command of the total process of analysis and curriculum building, (2) hardware, including computers and software, and (3) effective dissemination methods.

34. Little, J. Kenneth. Review and Synthesis of Research on the Placement and Follow-Up of Vocational Education Students. Columbus: Center for Vocational and Technical Education, Ohio State University, 1970. 54 pages. ED 037 543 MF $0.65 HC $3.29. (Also available from The Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, $1.75.)

    This review of follow-up studies of graduates of vocational-technical education programs includes studies published since 1965 and covers the major fields of vocational-technical education at secondary, post-secondary, and adult levels. Programs for special groups of individuals are also included. Two purposes of the review are (1) to identify the job histories of graduates and (2) to provide base-line data for program evaluation. The review is organized around the following topics: the role of follow-up studies, general surveys, studies of specific programs, summaries of placement information, studies of special groups, benefit-cost studies, follow-up studies procedures, and evaluation summary. A 101-item bibliography is included.

35. Lowman, C. L. Handbook for Diversified Cooperative Training. Distributive, Cooperative, and Business Education. Tallahassee: Florida State Department of Education, 1963. 130 pages. ED 012 748 MF $0.65 HC $6.58.

    This handbook was written to aid the school administrator and coordinator in establishing and operating a diversified cooperative training

(DCT) program. The DCT program involves the training of high school students in three general occupational groups--trade and industrial, distributive, and office occupations. If specialized programs in cooperative distributive education and cooperative business education are operated within a school, all students training in marketing or merchandising goods or services should be enrolled in the distributive education program, and students training in office occupations should be enrolled in cooperative business education instead of the DCT program. DCT is an integral part of the high school curriculum, utilizing the business and industrial establishments of the community as training agencies. The guide includes: (1) factors and steps to be taken in establishing a program, (2) legal responsibilities involved in operating a program, (3) the school's responsibility, (4) responsibilities of the employer, (5) securing and maintaining good public relations, and (6) club activities. The appendix includes sample forms, a sample outline of general related study, the constituion of the Cooperative Education Clubs of Florida, the constitution and bylaws of the Cooperative Education Association of Florida, and job classification codes for cooperative education programs.

36. McGowan, William N. Vocational Education, A Message from Business. Burlingame, California: Association of Secondary School Administrators, 1965. 40 pages. ED 016 789 MF $0.65 HC $3.29.

A discussion by industry and business leaders and educators on establishing more meaningful relationships between business, industry, and the public schools prompted a survey of nine major California employers to gather data concerning entry-level jobs for which it was difficult to find employees, the general nature of job interview questions, a forecast of job needs, and opinions concerning the kind of preparation schools should be giving students to improve their qualifications as potential employees. During the year ending June 1964, Kaiser Steel Corporation processed 10,661 job applicants but hired 2,392, Lockheed-California processed 18,296 but hired 3,944, and Pacific Telephone Company processed 200,000 but hired 18,000. The major reasons for rejecting applicants were their failure to meet educational requirements, their failure to meet minimum company test requirements, and their lack of skill or experience. Jobs for which it was difficult to find employees included accountant, boilermaker, building service man, draftsman, electrician, programer, stenographer, and welder. Preparation which schools should be giving included training in secretarial and clerical subjects, arithmetic, grammar, spelling, office conduct, human relations, job application, and analytical problem solving. Suggestions for improving vocational education through effective involvement of business, industry, and schools concerned setting up central clearinghouses for vocational guidance

materials, federal government implemented job plans, representative visits to schools on a continuing basis, and, for each county, a vocational education council consisting of representatives from business, industry, and labor. Sample employment application forms and personnel interviewer evaluation forms are given in the appendix.

37. McQueen, Robert. The Role of Vocational-Technical Education and the Holding Power of the Schools. Reno: Nevada Occupational Research Coordinating Unit, 1968. 29 pages. ED 036 613 MF $0.65 HC $3.29.

School dropouts occur most often among boys in the tenth grade of academic courses. Evidence suggests that they and some others who finish high school would have had more personal satisfaction and value from a vocational-technical curriculum. Occupational preparation, if provided in schools, can make students ready for successful introduction to employment or to post-high school training, thus giving these years more value to the student while lowering the rate of high school dropouts. A concentrated program of occupational guidance, beginning early in elementary grades, can impart accurate information about many fields of work and nurture positive attitudes of respect and admiration for labor. One of the most comprehensive curriculum plans for such a program is that adopted by the Michigan Department of Education and reproduced here in the appendix. It proceeds from this start in the early grades to a stimulation of interest in junior high and a training in high school, not in the narrow, restricted specialties, but rather in broad occupational clusters. Tools for increasing the effectiveness of such a program of occupational preparation include: (1) occupational guidance and testing centers, (2) on-the-job orientation of counselors, (3) advisory committees for vocational-technical programs, and (4) expansion of the use of present vocational-technical facilities.

38. Maley, Donald. An Investigation and Development of the Cluster Concept as a Program in Vocational Education at the Secondary School Level: Final Report, Phase 1. College Park: University of Maryland, 1966. 135 pages. ED 010 301 MF $0.65 HC $6.58.

The investigation and development of the Cluster Concept as a program in vocational education at the secondary school level are reported. The Cluster Concept Program is aimed at the development of skills and understandings related to a number of allied fields, and prepares a person to enter into a family of occupations rather than a specific occupation. Review of the literature in the areas of education, labor, economics, and industry has established the need for this type of program. The summaries are presented in three sections:

(1) appropriateness of the Cluster Concept Program, (2) development of occupational clusters, and (3) development of course outlines.

39. Maley, Donald. Construction Cluster: An Investigation and Development of the Cluster Concept as a Program in Vocational Education at the Secondary School Level. College Park: University of Maryland, 1966. 281 pages. ED 010 302 MF $0.65 HC $9.87.

This course outline on construction is part of the final report on Cluster Concept courses in vocational education for secondary education. Each job entry task is analyzed for human requirements (communication, measurement, mathematics, science, skills, and information) necessary for performance of the task. The task statements for carpentry, electricity, masonry, painting, and plumbing are written in behavioral terms that provide the instructor with a description of what the student should be able to do after he has had the learning experience. Instructional sequences are provided at the end of the task analysis sections to aid the teacher in developing lesson plans, materials of instruction, and visual aids.

40. Maley, Donald. Electromechanical Installation and Repair Cluster: An Investigation and Development of the Cluster Concept as a Program in Vocational Education at the Secondary School Level. College Park: University of Maryland, 1966. 284 pages. ED 010 303 MF $0.65 HC $9.87.

This course outline on electromechanical installation and repair is part of the final report on Cluster Concept courses in vocational education for secondary education. Each job entry task is analyzed for human requirements (communication, measurement, mathematics, science, skills, and information) necessary for performance of the task. The task statements for servicing of air conditioning and refrigeration, business machines, home appliances, and radio and television are written in behavioral terms that provide the instructor with a description of what the student should be able to do after he has had the learning experience. Instructional sequences are provided at the end of the task analysis sections to aid the teacher in developing lesson plans, materials of instruction, and visual aids.

41. Maley, Donald. Metal Forming and Fabrication Cluster: An Investigation and Development of the Cluster Concept as a Program in Vocational Education at the Secondary Level. College Park: University of Maryland, 1966. 281 pages. ED 010 304 MF $0.65 HC $9.87.

This course outline on metal forming and fabrication is part of the final report on Cluster Concept courses in vocational education for

secondary education. Each job entry task is analyzed for human requirements (communication, measurement, mathematics, science, skills, and information) necessary for performance of the task. The task statements for machining, welding, sheet metal work, and assembly are written in behavioral terms that provide the instructor with a description of what the student should be able to do after he has had the learning experience. Instructional sequences are provided at the end of the task analysis sections to aid the teacher in developing lesson plans, materials of instruction, and visual aids.

42. Manzanares, Jess, and Barnes, Bill. Vocational Core Program. Santa Fe: New Mexico State Department of Education, 1966. 20 pages. ED 011 296 MF $0.65 HC $3.29.

A ten-year program for disadvantaged youths has the following objectives: (1) to meet the needs of students who have no interest in, or ability to adapt to, a regular school program, (2) to relieve the classroom teacher of discipline problems that become so time-consuming that other class members are penalized, and (3) to establish a flexible school program that includes activities both in and out of the regular school day. Criteria for student selection includes (1) poor general attitude, (2) lack of interest in the regular curriculum, (3) chronic misbehavior, (4) petty criminal activities, (5) incorrigible truancy, (6) inability to get along with other people, and (7) dropout potential. Scheduling was done on an individual basis by the vocational core teacher. Students are encouraged to participate in a work experience program and take courses that they want to take and in which they might succeed. The program operates at the junior and senior high school level. Junior high students receive credit as recommended by the vocational core teacher, and at the senior high level the principal cooperates in this recommendation. The student may transfer to the regular curriculum at will. The vocational core teacher does extensive individual counseling.

43. Meyer, Warren G., and Logan, William B. Review and Synthesis of Research in Distributive Education. Columbus: Center for Vocational and Technical Education, The Ohio State University, 1966. 231 pages. ED 011 565 MF $0.65 HC $9.87.

This review and synthesis of the literature on distributive education includes 59 doctoral dissertations written since 1930, 120 masters studies completed from 1957 through 1966, and 71 other studies. Topics covered are Philosophy and Objectives, Manpower Needs and Employment Opportunities, Curriculum Development, Educational Programs, Instructional Materials and Devices, Learning Processes and Teaching Methods, Student Personnel Services, Facilities and

Equipment, Teacher Education, Administration and Supervision, Evaluation, and Research. The commentary on the state of distributive education research is accompanied by five tables that present classification of research by graduate degrees, graduate institutions, years, geographic regions, and subjects. The bibliography provides a cross-index to the contents. The conclusions are that studies have dominated research in distributive education and that little use of tests has been made. Statistical methods, electronic data processing, and better research techniques are being used increasingly. Use of experimental methods and the development of tests designed to measure specific educational outcomes are recommended. The second review, covering research between 1966 and 1968, is written by Richard D. Ashmun and Roger A. Larson.

44. Mills, Boyd C., and Rahmlow, Harold F. Major Tasks and Knowledge Clusters Involved in Performance of Electronic Technicians' Work. [Final Report Number 4.] Pullman: Washington State University, 1966. 71 pages. ED 010 655 MF $0.65 HC $3.29.

In an effort to identify specific knowledges and clusters of knowledges most widely useful in major types of work commonly done by electronic technicians, the principal tasks of technicians are classified as (1) diagnosing trouble in systems, (2) adjusting and operating, (3) servicing, (4) assembling, (5) installing, (6) designing and computing, (7) application, distribution, and sales in electronics, and (8) quality control and testing. A questionnaire listing 643 knowledges extracted from textbooks, curriculum guides, and courses of study was administered to a sample of workers in sixty-four establishments broadly representative of the national pattern of electronic technicians' work. These workers deemed 84 of the 643 knowledges essential for performance of six of the eight principal tasks, and 154 essential for performance of three to five principal tasks. These data were provided by 154 usable questionnaires. This volume represents part four of the thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

45. Nevada Occupational Research Coordinating Unit. Vocational Education and the Comprehensive High School: A Challenge to Administrators. Reno: 1968. 38 pages. ED 021 139 MF $0.65 HC $3.29.

The role of the high school principal in moving vocational education from a "status quo" position to one of rightful partnership with other areas of the comprehensive high school curriculum is a vital one. The notion that high school is for college-bound students greatly limits the opportunities of young people who do not attend college, and, if

education is the right of all youth, something is out of balance. If this imbalance is to be improved, the general image of vocational education must be improved. Within any individual high school, this image can be changed by the principal's leadership and attitude that vocational education develop a rightful place in the complete organization of the school. This change will cause both internal and external conflicts that will require more of the principal than nominal leadership as his actual leadership may be challenged. The job will consist of changing the attitudes of the administrator himself, the entire faculty, the community, and the students. Suggestions and guidelines are offered to the principal for changing attitudes and administering the program. The attitude of the principal, his relationship with the community, and ability to enlist help from all available sources are real aids to the successful development of vocational programs. He must assume the leadership, but he cannot carry the problems alone. He should welcome every source of help in promoting a strong image of the vocational program, selecting proper personnel, implementing the program, and conducting ongoing evaluations.

46. New Hampshire State Department of Education. An Annotated Bibliography of Resources in the Fields of Vocational-Technical Education and Vocational Guidance. Concord: Division of Instruction, 1970. 36 pages. ED 038 513 MF $0.65 HC $3.29.

Twenty-nine annotated bibliographies on vocational-technical education and vocational guidance are presented in this report. They are divided into five sections which provide information on trade and industrial education, the disadvantaged child, work experience programs, the dropout, and vocational guidance. The annotations contain information about publisher, author, date of publication, number of pages, an abstract, and indexing terms. All the documents have ED numbers and are available on microfilm from the ERIC Document Reproduction Service.

47. Ohio State Department of Education. Manual of Operation for Vocational Home Economics Programs in Job Training in High Schools. Columbus: 1965. 33 pages. ED 012 750 MF $0.65 HC $3.29.

As required by the Vocational Education Act of 1963, part of the home economics program includes classes for high school girls and boys who wish to prepare for gainful employment utilizing home economics knowledge and skills. Ohio offers the cooperative two-year program, and the occupational work-experience that is designed primarily for the eleventh- and twelfth-grade students of limited ability in a single skill area. The manual gives state requirements for student eligibility, teacher qualifications, space, and equipment and procedures

for establishing and administering job training programs. The appendix contains program outlines, job descriptions, job opportunities, and characteristics of trainees for (1) child care workers, (2) homemakers' assistants, (3) nursing and rest home aides, (4) food service workers, and (5) clothing service workers. The criteria for vocational approval and application forms for job training programs are also given.

48. Perkins, Edward A., Jr., and Byrd, F. Ross. A Research Model for Identification of Task and Knowledge Clusters Associated with Performance of Major Types of Office Employees' Work. Final Report Number 5. Pullman: Washington State University, 1966. 73 pages. ED 010 656 MF $0.65 HC $3.29.

    To show essential combinations of task-knowledge clusters for use by curriculum planners in developing appropriate instructional programs and materials for office education, an educational research model was developed to identify and correlate major tasks of office workers and major required knowledges for performance of those tasks. The total office labor force in the state of Washington was identified, using census data and other data provided by state agencies. With the assistance of university statisticians and electronic computers, a sample was selected in proportion to the number of office workers in five office-size categories within fifteen major standard industrial classification groupings, including agriculture, manufacturing, transportation, services, education, and government. Using the selected sample (286 office workers and supervisors) and also a jury of experts, a questionnaire composed of 600 office tasks was validated. In addition to pilot testing the questionnaire, a structured procedure was developed for its use in other projects to identify major tasks and knowledges of a representative sample of office workers within any geographical area. A paradigm constructed for such task-knowledge investigations was presented in the form of five flow charts. This volume represents part five of the thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

49. Rahmlow, Harold F., and Winchell, Leonard. Mathematics Clusters in Selected Areas of Vocational Education. [Final] Report Number 8. Pullman: Washington State University, 1966. 15 pages. ED 010 659 MF $0.65 HC $3.29.

    Identifications are made of the mathematical knowledges commonly used in occupations most readily suitable for non-college-bound youth. Task items from questionnaires used in office occupations, general merchandising, building trades, electronics, food service, child care, and agriculture studies are examined for mathematical knowledge content. Five clusters of mathematical knowledges found to be useful in all the job

areas studied are: (1) operations with fractions, (2) operations with decimals, (3) conversion of fractions to decimals, (4) concept of percentage, and (5) ratio and proportion. Study results were considered tentative. This volume represents part eight of the thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

50. Rahmlow, Harold F., and others. A Survey Instrument for Identifying Clusters of Knowledge and Competencies Associated with Performance of Food Service Work. [Final] Report Number 9. Pullman: Washington State University, 1966. 20 pages. ED 010 660 MF $0.65 HC $3.29.

As an initial step toward improving vocational curricula in food servicing, a special research team developed and field tested a survey instrument for obtaining up-to-date information about major types and combinations of tasks performed by food service workers. The instrument covered the following basic tasks of food servicing: (1) food preparation, (2) management and supervision of commercial and institutional food service establishments, (3) miscellaneous tasks of food service establishments, including maintenance, cashiering, and clerical and secretarial support, (4) food purchasing, and (5) food serving and menu planning. Field testing was done with food service employees of a modern hospital and hotel, university dining halls, and three highway restaurants. A copy of the completed instrument is presented. This volume represents part nine of a thirteen-part final report on the Vocational-Technical Education Research and Development Project of Washington State University.

51. Schmitt, Marshall L., and others. Industrial Arts: An Analysis of Thirty-Nine State Curriculum Guides, 1953-1958. Washington, D.C.: Office of Education, Department of Health, Education, and Welfare, 1961. 87 pages. ED 012 377 MF $0.65 HC $3.29. (Also available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, $0.45.)

Instructional topics are reported for seven subject areas in industrial arts for the junior and senior high schools representing thirty-nine state curriculum guides and twenty-two states. Emphasis identifier is the frequency of mention for each topic based on the number of guides and the number of states reporting each topic. Examples show the manner in which the instructional content is presented in the state guides. Included with each example is the state pattern of organization for industrial arts. Main elements in the curriculum guides are (1) foreword, (2) purpose and philosophy of industrial arts, (3) general objectives of industrial arts, (4) instructional content, (5) administrative factors, (6) laboratory (shop) planning, (7) list of tools and equipment, (8) safety,

(9) evaluations, (10) methods of teaching, (11) public relations, and (12) general bibliography. Suggestions contain a proposal to improve the industrial arts program. A teaching plan is provided.

52. Smith, Gary R. Workshop on Planning, Implementing and Evaluating Balanced Programs in Distributive Education. Final Report. Logan: Utah State University, 1969. 187 pages. ED 035 106 MF $0.65 HC not available from EDRS.

Organized to acquaint state and local officials with distributive education and planning, programing, and budgeting techniques, this workshop was designed to (1) develop an understanding and appreciation for systematic planning and programing techniques, (2) develop an understanding of the social and economic problems that face distributive education, (3) acquaint its participants with types of base-line data needed to develop balanced programs, (4) develop an understanding of the scope of the distributive education program including pre-high school services and interdisciplinary approaches, and (5) develop a model for use in program development and evaluation. Consultants gave presentations covering seven major areas of systematic program planning. Participants completed a workshop problem designed to take them through a total PPB experience and produced a model for use in PPB for distributive education personnel.

53. Staley, Eugene. Planning Occupational Education and Training for Development. Stanford, California: Stanford International Development Education Center, Stanford University, 1968. 148 pages. ED 043 784 MF $0.65 HC $6.58. (Also available from Publications Secretary, SIDEC, School of Education, P.O. Box 2329, Stanford University, Stanford, California 94305.)

This study offers a conceptual framework for preparing people for adequate performance of occupational roles, an analysis of key issues, and information on experiences and current practices in the field. The main features of the conceptual framework include general education, general plus preoccupational education, job-entry training plus further education, and career-long further training and retraining plus further education. The logical starting point for planning a developing country's occupational education and training system is analysis of the emerging needs for qualified personnel. An integrated planning approach begins by surveying the country's activities that will require qualified personnel and proceeds to the needs of each sector and, ultimately, to each employing establishment. Once the planner has a fairly clear idea of the kinds of qualifications needed, the curriculum content must be determined. Next, the planner must take into account the institutions available and ways to link the formal education system and the employment system.

Finally, the overall planning, coordinating, and financing of the training system must be considered.

54. Stock, William E., and Pratzner, Frank C. Review of Research on Student Selection and the Prediction of Success in Occupational Education. Minneapolis: Minnesota Research Coordinating Unit in Occupational Education, 1969. 52 pages. ED 039 319 MF $0.65 HC $3.29.

Research since 1960 on the selection of students and the prediction of student success in occupational education is the focus of this review. In a systematic search of the literature, efforts were made to obtain identified materials. The review, written to serve both the researcher interested in bibliographical data, design and methodology, and the practitioner interested in applying data to ongoing, operational programs, includes descriptions of research studies in: (1) high school student selection and the prediction of student success, (2) post-high school student selection and the prediction of student success, and (3) adult student selection and the prediction of student success. Within these subjects, studies are classified as achievement studies (using grades, standard tests and/or teacher ratings or tests of program or course achievement as the principal outcome), completion studies (in which successful completion of the program is the principal outcome), or related student characteristics studies (in which the criterion variable is training, and/or occupational preferences, interest or other measures not classifiable as achievement or completion). The research is synthesized into a summary of the current status of knowledge about vocational-technical student selection and problem areas still in need of research.

55. Sweary, H. Paul. The Development and Demonstration of Unified Vocational-Technical Education Programs in Small Rural Area High Schools. Final Report of Project 601. East Lansing: College of Education, Michigan State University, 1967. 16 pages. ED 019 472 MF $0.65 HC $3.29.

The major purpose of this project was to improve the quality and image of vocational education in rural secondary schools through the use of innovative curricula. A three-day preschool workshop and several conferences for vocational teachers, counselors, and administrators from three participating schools were held to study problems in implementing courses having content common to several occupations and in restructuring the curriculum. Schools were given freedom in adjusting schedules and courses to provide the necessary instruction. All ninth-grade students were encouraged to enroll in an occupational survey course to assist them in career and educational planning by interpreting their interests, aptitudes, and vocational abilities and by introducing them to careers in major occupational fields. Common competencies of several occupations were taught, and simulated work experience was

substituted for supervised job experience where work stations were not available. Data consisting chiefly of intelligence quotients, grade achievements, and interests and aptitudes measured by standardized tests had not been analyzed at this reporting time. Tentative conclusions indicate only tendencies. For instance, it appears that many students had been employed for pay in doing very simple jobs, and vocational choices or interests had not concentrated in closely related fields. During the second year, clinical schools were to be encouraged to offer vocational courses and, in the third year, they were to try out a variety of ways to simulate occupational work.

56. Sweany, H. Paul. The Development and Demonstration of Unified Vocational-Technical Education Programs in Small Rural Area High Schools. A Developmental Vocational Education Research and Teacher Education Program Based on a Clinical School Concept. East Lansing: Michigan State University, 1969. 39 pages. ED 028 874 MF $0.65 HC $3.29.

    Changes in occupational patterns of local rural communities and out-migrating rural youth led to apparent deficiencies in small rural schools' vocational, occupational education programs. This project provided inservice workshops to develop courses and to review and revise the curriculum for various occupational fields. The project resulted in extensive curriculum revision and improvement of the vocational phase of guidance. Project recommendations for future development include: (1) providing inservice education for teachers to aid them in the development of simulated work stations that will improve students' competencies with the essential skills needed for successful job entry; (2) offering a "Survey of Occupations" course at the eighth grade, (3) continuing to update occupational information, (4) utilizing community resources to augment instructional staff, (5) continually updating and evaluating curriculum, (6) preparing teachers in the skills required for analysis of student occupational competencies, and (7) utilizing a variable class scheduling technique to optimize student learning and instructional requirements.

57. Tuckman, Bruce W. A Study of Curriculums for Occupational Preparation and Education. (SCOPE Program: Phase I). Progress Report 3. New Brunswick, New Jersey: Graduate School of Education, Rutgers, The State University, 1969. 30 pages. ED 032 638 MF $0.65 HC $3.29.

    The major objective of the Study of Curriculums for Occupational Preparation and Education (SCOPE) is to coordinate and contribute to national curriculum development at the secondary school level. SCOPE programs attempt to increase the relevance of high school education for the majority of students who must seek employment or further job training upon graduation. This progress report outlines recent accomplishments toward the initial phase project goals which include: (1) establishing

communication among the state-supported vocational curriculum development centers; and (2) developing a model for classifying educational objectives in terms of performance requirements and objectives rather than subject matter. The classification task required specification of behavioral objectives within the cognitive, affective, perceptual, and psychomotor domains. The appendix includes: (1) definitions of classification model categories; (2) sample student performances for classification model categories; and (3) questions which will be used in the future SCOPE study on the effects of ability grouping in the public schools.

58. Ullery, J. William, and Forsyth, Richard W. Development and Evaluation of An Experimental Curriculum for the New Quincy (Mass.) Vocational-Technical School: The Power Mechanics Curriculum. Twelfth Quarterly Technical Report. Pittsburgh, Pennsylvania: American Institutes for Research, 1969. 146 pages. ED 034 067 MF $0.65 HC $6.58.

Describing the development of the Project ABLE Power Mechanics Program, this report is designed to serve as an administrator's and instructor's manual for the organization, implementation, and evaluation of a program of individualized instruction utilizing the Project ABLE Power Mechanics curriculum materials. Training aids, tools, supplies, and references are listed in detail. Major documents and samples of instruments, performance evaluations, learning units, flow charts, first- and second-level job descriptions, and suggested first-level student activities are appended.

59. Venn, Grant. "The Challenge of Vocational Education for Schools, States, and the Nation." Speech delivered at the American Vocational Association Convention, Cleveland, Ohio, December 1967. Washington, D.C.: Office of Education, Department of Health, Education, and Welfare, 1967. 15 pages. ED 016 855 MF $0.65 HC $3.29.

The major dilemma and challenge facing vocational education is the fact that social changes lag far behind technological changes. Basic issues relating to this dilemma include: (1) dropouts leave school before they acquire vocational skills; (2) adolescents in our culture lack a clear-cut way to move from childhood to a contributing role as an adult in society; (3) rapid change, increasing educational levels, and greater needs tend to isolate people from society for economic reasons, while geographical isolation causes many rural areas to be left out of the mainstream of technological development; (4) the rising aspiration rate often exceeds results and rising frustration exceeds both; (5) the educational level of adults often hinders their adjustment to changes; (6) a lack of clear-cut jurisdictional control over programs confuses the responsibility for them; and (7) the decision of whether to educate for a job and a satisfying role in society or to remedy and correct must be

made. To resolve these issues, the belief that occupational education is the real preparation for life must be implemented by providing the best possible vocational education for the greatest possible number of people. To achieve this, the administration has introduced a proposed amendment to the Vocational Education Act of 1963 to set up pilot programs, costing an estimated $30 million annually, to find ways to overcome the basic problems. The amendment has four aspects--an exploratory occupational education program for all junior high school students, projects to assist the student in developing to his maximum through educational part-time work experience, a service in schools for placing students in entry jobs, and the development of new curricula in vocational education to serve those now being ignored. Whether this amendment becomes law or not, federal personnel are saying, "The responsibility of the schools for its students cannot be overemphasized. The responsibility is not just for instruction. It applies to those who leave as well as those who remain--to the dropouts as well as to the stayins."

60. Virginia Commonwealth University. Distributive Education in the High School. A Suggested Guide for Administrators and Teachers of Distribution and Marketing. Richmond: 1969. 68 pages. ED 039 362 MF $0.65 HC not available from EDRS. (Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., FS5.282: 82109, $0.65.)

    This guide is prepared by a researcher-consultant to help school administrators and teachers improve, redirect, and expand instructional programs preparing high school youth to enter and progress in distributive employment. It presents distributive education in its educational, social, and economic environment and is concerned with a broadly conceived program. Chapters cover: (1) environment for distributive education, its educational, social, and economic responsibilities; (2) distributive education as a program, as it is affected by the 1968 Vocational Education Amendments; (3) areas of instruction in preparatory curricula, and how they relate to each other and to the field of distribution; (4) methods to assure application to employment requirements in preparatory plans; (5) implications of levels of training opportunities; and (6) organizing and administering preparatory instruction in the high school. A bibliography and a glossary are appended.

61. Wallace, Harold R. Review and Synthesis of Research on Cooperative Vocational Education. Research Series Number 60. Columbus: Center for Vocational and Technical Education, The Ohio State University, 1970. 124 pages. ED 040 274 MF $0.65 HC $6.58. (Also available from the Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, $2.25.)

Basic concepts, definitions, and philosophical positions concerning cooperative vocational education were identified to form a theoretical model for program development. The review crosses the boundaries of the occupational fields within vocational-technical education, and attempts to focus more narrowly on a specific instructional methodology. "Dissertation Abstracts," professional journals, and a computer search of the ERIC collection were reviewed to identify 279 research studies with publication dates from 1934-1969. Major topics are: (1) The Student Learner, (2) The Employment Community, (3) Educational Technology, (4) Program Implementation, and (5) Priorities, Problems, and Issues. Some research gaps include: (1) a theoretical and philosophical framework for research and development in vocational and technical education, (2) interpretative dissemination systems for manpower data, (3) research technology to provide for transformation of occupational analysis data into instructional objectives, and (4) communication of research and development products by practitioners in vocational-technical education.

62. Wenrich, Ralph C. Review and Synthesis of Research on the Administration of Vocational and Technical Education. Columbus: Center for Vocational and Technical Education, The Ohio State University, 1970. 78 pages. ED 037 542 MF $0.65 HC $3.29. (Also available from the Center for Vocational and Technical Education, The Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210, $2.25.)

This "state-of-the-art" paper summarizes the most significant research related to the organization and administration of vocational and technical education at high school, community college, and adult education levels, as reported between 1963 and 1968. The paper is intended to provide researchers and practitioners with an authoritative analysis of the literature in the field. The Educational Resources Information Center (ERIC) system was a major source of information. Other library resources were used, and information was sought from the forty-five Research Coordinating Units for Occupational Education. Research is categorized by: (1) policy making, (2) organizing for administration, (3) program planning, (4) staffing, (5) financing and facilities planning, (6) evaluating, (7) school-community relations, and (8) research.

63. Wenrich, Ralph C., and Ollenburger, Alvin. High School Principals' Perceptions of Assistance Needed in Order to Develop More Adequate Programs for Employment-Bound Youth. Ann Arbor: School of Education, University of Michigan, 1963. 52 pages. ED 011 282 MF $0.65 HC $3.29.

Questionnaires were sent to principals of large high schools in Michigan to determine the kinds of federal and state assistance they would consider most helpful in developing and operating special programs and

services for employment-bound youth. Responses were received from 123 principals, or 98.4 percent. Questions covered six areas of activity: (1) examining the goals of the school and evaluating the offerings available to employment-bound youth, (2) assessing the needs of in-school and out-of-school youth and the needs of employers, (3) developing new programs to meet the needs of youth and employers, (4) operating specialized programs designed to prepare in-school youth for employment, (5) operating specialized programs designed to prepare out-of-school youth for employment, and (6) providing more adequate vocational guidance services for in-school and out-of-school youth. The areas of activity were placed in rank order by the principals and area (2) and area (4) were ranked first and second, respectively. A majority of the principals felt that they did not have time to give leadership to the programs for employment-bound youth, and nearly three-fourths felt their programs could be improved if funds were made available to provide an extra assistant for this leadership. Tables of principals' responses, the questionnaire, and recommendations are included.

64. Western New York School Study Council. Organization and Operation of a Local Program of Vocational Education. Buffalo: 1968. 96 pages. ED 022 061 MF $0.65 HC $3.29. (Also available from Ohio Trade and Industrial Education Service, Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210, $1.00.)

This document is intended as a guide for persons who have major responsibilities for developing new programs of vocational and technical education under public sponsorship at local levels. It is also written for use by teachers in all types of vocational programs, guidance personnel, and teacher educators who are preparing vocational teachers and leaders. Chapter titles are: (1)The Purpose and Scope of the Publication, (2) Vocational Education in a Time of Rapid Technological Change, (3) Legislation Promoting and Supporting Vocational Education, (4) The Goals and Purposes of Vocational Education at the Local Level, (5) Planning the Local Program of Vocational Education, (6) Determining the Scope and Nature of the Program, (7) The Effective Use of Advisory Services, (8) Vocational Education and Related Services, (9) The Job of the Local Administrator of Vocational Education, (10) Leadership in Vocational Education, (11) Manning the Program with Effective Personnel, (12) Financing the Local Program of Vocational Education, (13) The Improvement of Instruction, (14) The Vocational Student, (15) Providing Facilities and Equipment for the Program, (16) The Role of the Practical Arts in Vocational Education, (17) Evaluating the Program, and (18) The Vocational Leader and Research.

65. Zikmund, Dale G. Handbook on Planning and Conducting Cooperative Occupational Education Programs in Off-Farm Agricultural Occupations. Lincoln: Department of Agricultural Education, University of Nebraska, n.d. 178 pages. ED 022 914 MF $0.65 HC $6.58. (Also available from Department of Information, College of Agriculture and Home Economics, University of Nebraska, Lincoln, Nebraska 68503, $1.50.)

Orientation of vocational teachers to the fundamental concepts of planning and conducting cooperative occupational experience programs in off-farm agriculture is the major objective of this guide. The guide suggests that teachers attend special classes or workshops and consult additional references when planning an occupational experience program. Contents include: (1) formulating local policies, (2) using an advisory committee, (3) conducting a community survey, (4) public relations activities, (5) selecting training stations, (6) student selection, (7) legal requirements, (8) placement of students, (9) cooperating with others, (10) developing training plans, (11) developing agreements, (12) teaching related instruction, (13) program coordination, (14) student evaluation, (15) records, (16) student follow-up, and (17) program evaluation. The appendix contains a policy statement, occupational survey form, cooperator interview form, student application form, self-interest test, student learner certificate information, training agreement, employer evaluation form, employer student rating form, occupations survey, student information form, training plan, visitation record, teacher evaluation form, method for determining community vocational needs, and a check sheet of factors to be considered in evaluation of students. Supplementary materials include a reference list.

SUBJECT INDEX